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No. XXII.

*Some account of a New Species of North American Lizard. By  
Dr. Barton.*

Read, April 15th, 1803.

THE species of Lizard of which I propose to give the Philosophical Society some account, and of which I have the satisfaction of showing them not only a good drawing but also a living specimen, was found at the distance of a few miles from the city of Philadelphia, about eight weeks ago. It is six inches and eight tenths of an inch in length from the end of the nose to the extremity of the tail. The nose is very blunt, the head forming nearly an oval. The whole body is remarkably smooth, somewhat glutinous to the touch, and of a dirty purplish colour, a good deal similar to that of our fox-grape. The whole under side of the body, the legs, the tail, &c. is of a livid purplish colour, and very abundantly besprinkled over with blueish white spots of different sizes, but all of them very minute. The upper part of the body is beautifully marked with a number of spots of a fine yellow colour. These spots are very irregularly distributed over the animal. The most anterior of them are adjacent to the right eye. There are no corresponding spots in the immediate vicinity of the left eye. Some of the spots are nearly round, others are irregularly oval. They are entirely confined to the upper part and to the sides of the body of the animal, including the legs. The largest of these spots is about the eighth of an inch in diameter.

A very minute description of the animal does not seem necessary, as the drawing in Plate IV. Fig. 6. will convey a much better idea of it than the most finished description. In addition to what I have already said, I shall therefore only observe, that the mouth is very large, being more than half the length of the head; that the legs and feet are very small for the bulk of the animal; that the fore-feet are furnished with four toes, and the

hind feet with five toes; all of which are unarmed or destitute of nails. The toes are marked transversely with blackish lines. The tail is not round, but considerably compressed sideways.

This species of lizard is unnoticed by Linnæus, Gmelin, La Cépède, Shaw, or any other of the later writers (so far as I know) on the class of amphibia. It may, from merely attending to the description, be mistaken for the *Lacerta punctata* of Linnæus, from which, however, it differs in several essential respects. The general ground colour of the two animals is very different: that of the *punctata* is brown (*corpus fuscum*,) while that of this *lacerta* is a dirty purple or violet. The throat, the sides and the belly of the *punctata* are of a dull yellow, while the underside of this *lacerta* are a livid purplish. If these were the only differences, I should not urge the difference of species, for colour is known to be a very variable feature of animals, though I believe not remarkably so in the tribe of lizards. The two animals are spotted, but the spots of the *lacerta punctata* are white: those of this species a fine yellow. It would appear from Catesby's figure and description of the *lacerta punctata*, that the spots of this species are confined to the back and tail; there being a double row upon the back and a single one upon the tail. In my *lacerta*, the yellow spots are found upon the head and legs as well as upon the back and tail, and they are very irregularly distributed. Catesby makes no mention of any small ash-coloured spots, of which there is a great number upon the belly and sides of my *lacerta*. Lastly, the tail of the *lacerta punctata* is round (*cauda teres*), whereas the tail of the animal which I describe is manifestly compressed. Upon the whole, I do not hesitate to conclude, that the *lacerta punctata* and my *lacerta* are two distinct species. Believing this to be the case, I should be glad to be able to give an appropriate specific name to the new species. I cannot, at present, think of a better than one derived from the prevailing colour of the animal, a colour inclining to violet or purplish. I beg leave, therefore, to name it *Lacerta subviolacea*, and would thus describe it for the benefit of systematic writers, who often prefer a short description (ever liable, where the species of a family are numerous, to mislead) to one more minute and extensive:

*Lacerta subviolacea*: cauda compressa, mediocri; corpore subviolaceo, glabro, viscido, poroso; maculis flavis cinereisque vario; palmis tetradactylis, plantis pentadactylis, omnibus muticis.

The *Lacerta subviolacea* belongs to that section of the family of lizards, which are designated by the name of Salamanders (*Salamandræ*\*) . Its natural position in the system will be near to the *Lacerta Salamandra*, to which, in several respects, it is closely allied. Like that species, it emits from different parts of its body, but particularly from the upper part of its tail, a milk-like fluid, which escapes from the animal in globules or drops of different sizes. This fluid is extremely glutinous, or adhesive. It does not seem to be of a gummous nature, for it is insoluble in water, but appears to be rapidly dissolved by alcohol. The emission of this fluid seems to be a voluntary act; for when it is irritated, the animal discharges it in large quantities.

I was desirous of knowing the effects of this fluid upon the system. With this view, I have made a few experiments, which are as yet too incomplete to be fully depended upon. The following experiments, however, have been made with care. Having pressed out from the tail of the animal, a small portion of the white fluid, I applied it to my tongue. It communicated almost instantaneously, the impression of a powerful astringent, but was succeeded, in a very short time, by a sense of causticity, and a taste very similar to that of the muriate of mercury, or corrosive sublimate. This last impression, notwithstanding repeated washings of the mouth, remained upon the tongue the greater part of a day. It occasioned a plentiful discharge of saliva from the mouth. Some of my pupils and other gentlemen repeated the experiment, and with similar effects.

The peculiar taste, and particularly the salivation, occasioned by this North-American lizard, induce me to believe, that there is more foundation than many physicians have imagined, for the reports of the Spanish and other physicians, concerning

\* " *Salamandræ*, corpore nudo, pedibus muticis, palmis tetradactylis," Gmelin.

the salivating property of certain species of lizards, and for believing, that such lizards, eaten raw, as they are directed to be, may have been found really useful, in the treatment of siphylis, and other diseases. On this curious subject, in addition to what is to be met with in different foreign publications, I received some interesting information from my learned and amiable friend, the late Mr. Julius Von Rohr, when he was in Philadelphia, in the year 1793. The facts communicated to me by that gentleman, have left me no room to doubt, that the uncooked flesh of some species of lizards in South-America and in the West-Indies, induce a genuine salivation, of some continuance, and which has been found beneficial in lepra, and other diseases, particularly those of a cutaneous nature.

I am sorry, that my account of this species of lizard is thus necessarily defective. Though the animal has been in my possession for several weeks, I have not been able to make many observations of consequence concerning it. It appears to be an harmless animal, unless, which is highly probable, it may sometimes prove injurious by emitting the white fluid which I have mentioned. Though it has been much irritated by me, it has never shown a disposition to bite. It seems extremely unwilling to meet the light or heat of the day. When it is removed from the wet moss, in which I have kept it, it soon betakes itself to the same habitation, and nearly conceals itself by drawing the moss about it. I am not certain, that it has eaten any thing since it came into my possession. I have, however, repeatedly given it worms and other animals. I believe it to be a water lizard, as it is so fond of affecting the wet moss. Besides, when I put it into a bason of water, it swarm with great rapidity and ease.

I weighed this animal at different times. On the 24th of March, I found the weight to be 342 grains. In somewhat less than an hour after, it weighed only 324 grains, having lost eighteen grains. It had been recently taken out of the water. Its greatest weight was that which I have first mentioned\*. It is a well-ascertained fact, however, that the weight of many

\* Or five drams, and forty-two grains,

of the amphibia, particularly the frogs and lizards, is very various at different times, even in the course of the same day or hour. This difference of weight is often entirely independent on any aliment, whether solid or fluid, being taken into the stomach, and must be ascribed to the absorption of water.

Philadelphia, April 15th, 1803,

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### POSTSCRIPT.

I believe all the smaller species of lizards, as well those which have a rougher, as those with a smoother skin, shed their coats annually. I think every species sheds its skin at least *once* every year. Perhaps, some species cast their coats twice a year, and some facts lead me to believe, that different individuals of the same species vary not a little in this respect. The same irregularity is observable in the rattle-snake (*Crotalus horridus*), as I know from my own observations.

After the preceeding paper was read to the Society, I had an opportunity of marking the progress of the desquamation or shedding of the skin of the *lacerta subviolacea*. On the 27th of April, it was first observed, that this process had commenced. The first appearance of the change was on the tail. At 12 o'clock, the skin began to loosen on the side of the thorax. At 4 o'clock it extended from the thorax to the tail, where it had commenced.

28th. This morning, the skin entirely peeled off the tail and the abdomen, and was scattered about in shrivelled portions. At 4 o'clock in the afternoon, the skin of the feet was drawn off entire, having the appearance of a glove.

29th. This morning, the animal had entirely lost its skin.

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I have now reason to believe, that the lizard never ate any thing during the whole of the time it continued in my possession.

Fig. 4

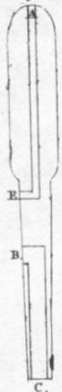


Fig. 3

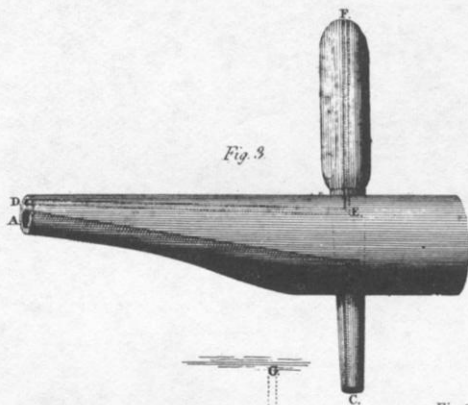


Fig. 1

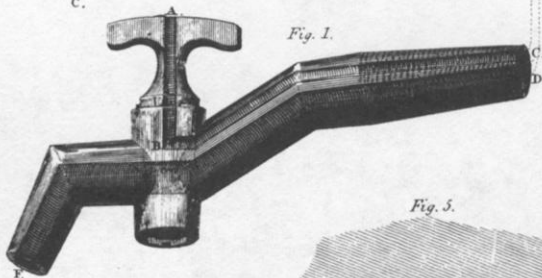


Fig. 2



Fig. 5



Fig. 6

